



**Structured products where the details are agreed upon by two counterparties**

**JSE**

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**DERIVATIVE MARKET**

**Equity Derivatives**

**Can Do Exotic Options**

[www.jse.co.za](http://www.jse.co.za)



Johannesburg  
Stock Exchange

The JSE is the first exchange in the world to list, trade and clear exotic options. It envisaged that the appetite would only be for vanilla exotics. On 8 January 2007 the first exotic was traded; a discrete look-back put spread. Since then the types of exotics traded grew in leaps and bounds with most of the traded exotics being complex in nature. Most exotics have the Alsi or JSE/FTSE Top 40 index as underlying instrument but trades have been done on the DTOP and some single names as well.

To date the following exotics have been listed and traded:

- ▶ **Fixed and floating strike lookback options**
  - ▶ put spreads with discrete monitoring
  - ▶ partial time lookbacks
  - ▶ including Asian option features
- ▶ **Barrier Options (Knock-in and Knock-outs)**
  - ▶ discrete and continuous monitoring of barrier
  - ▶ partial time barrier monitoring
  - ▶ ladders or timer put spreads or strike resetting options
  - ▶ double barriers (KIKO options)
- ▶ **Forward start Options**
- ▶ **Asian Options**
- ▶ **Digital/Binary Options**
  - ▶ cash or nothing and asset or nothing
  - ▶ including barriers
- ▶ **Cliquets**

Can Do Options Exotics are generally structured products where the details are agreed upon by two counterparties. The counterparties will approach the JSE who will inspect all aspects of the deal. These include the adherence to the rules and regulations of the JSE and the daily valuation and margining of the instrument. If the need exists, the JSE will develop a pricing model independent from the two counterparties. The model is parallel tested with the counterparties.

The test phase does not just concentrate on the pricing but also on how interest rates, dividends and volatilities should be meaningfully incorporated into the model.

Types of models developed thus far include closed form, Monte Carlo and tree based approaches. A new instrument will only be listed once all parties involved approve the JSE's valuation methodology. To date we have not yet come across an option that we were not able to value.

Our motto has always been (subject to the JSE rules and regulations): "If we can value and clear it, we will list it".



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## Advantages of trading Exotics on-exchange

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**Credit risk:** Through the process of novation, the JSE acts as central counterparty to all trades. It is the buyer to every seller and the seller to every buyer. As a result, trading firms take no risk on the actual counterparty to the trade, but on the clearing house, JSE Clear. The clearing house is able to take on this risk by adopting an efficient margining process meaning there is virtually no risk of default.

**Independent 3rd party valuation:** The JSE calculates a fair market value for every instrument on a daily basis using a mark-to-model process. This ensures adherence to accounting law AC133 whereby certain instruments have to be valued by an independent 3rd party.

**Flexibility:** Can Do's provide a great deal of flexibility whereby a client can decide on the type of product to trade, the underlying of the product, expiry dates and time, expiry valuation method and the nominal underlying size.

## Initial margin calculation

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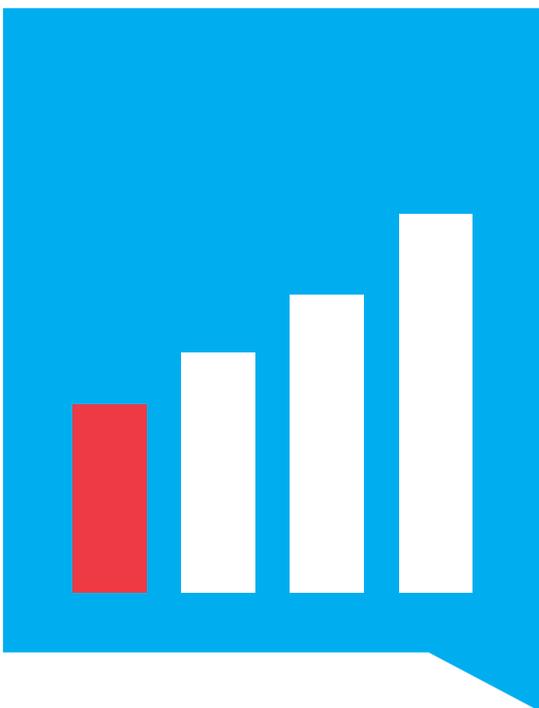
Initial margin is calculated using the exact same methodology used for vanilla option traded on the JSE. An in-depth explanation of the margining methodology can be found at <http://www.jse.co.za/Libraries/>

## Valuation models, procedures and times

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All valuations for Can Do exotics are done in-house. Most of the valuation models are developed by Dr Antonie Kotzé (Ph.D. Math. Phys (Wits)) and is managed by the Can Do team.

The Can Do team has an open mindset when conducting business with clients. They know exotics need more attention than vanilla options due to more conditions that need to be managed. Should a scenario present itself where, either the JSE or the client has a problem with certain valuations or processes, we will be more than happy to work in tandem with the client to sort it out as quickly as possible.



Can Do's are valued daily at 3 o'clock and 5 o'clock in the afternoon. Although no physical money will flow with regards to the 3 o'clock valuation, all our unit trust clients use these values to determine their daily unit trust net asset values. Variation margin flow will take place based on the 5 o'clock valuation.

## Exotics: the way forward

Currently, exotics are only written with equity as the underlying product. However, in the near future, traders and investors will be able to trade exotic option structures on a multiple of underlying instruments including interest rate products, currencies and commodities.

Equity linked swaps will be introduced in the very near future whereby an investor/trader will be able to trade one contract with multiple positions.

For example, in the simplest form, a basket could be created with a long position in stock ABC and a short position in stock XYZ.

### For additional information contact:

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